

IN THE CLAIMS:

Claims 33, 47, 50, 52-55, 57, 59-64, 67-69 and 71 are currently amended

Claims 49 and 58 are canceled.

1. to 32. (Canceled)

33. (Currently Amended) A method for mimicking network devices, the method being performed in a computing device having first and second network interface cards, the first network interface card connecting the computing device to an external network and the second network interface card connecting the computing device to a local network, the method comprising the steps of:

discovering each of a plurality of target network devices on the local network by listening to the local network for messages from the plurality of target network devices, and creating a target descriptor entry corresponding to each of the plurality of discovered target network devices in a target descriptor table;

creating a rule corresponding to each of the target descriptor entries in an inbound rules table containing a plurality of rules, wherein each of the plurality of rules corresponds to one of the plurality of the target network devices on the local network, wherein the each of the plurality of rules contains an IP address corresponding to the ~~corresponding~~ target network device, and wherein at least one of the plurality of rules indicates whether a functionality requested for a corresponding target network device to perform is to be processed by one of a plurality of application modules residing in the computing device;

receiving, via the first network interface card, an incoming message from a

client network device residing on the external network, the incoming message being addressed to an IP address of a designated one of the plurality of target network devices;

determining, based at least in part on the rule corresponding to the designated target network device, if the incoming message requests a functionality that the one of the plurality of application modules is configured to perform, ~~wherein the one of the plurality of application modules may or may not be configured to perform the requested functionality on behalf of the designated one of the plurality of target network devices, and wherein the designated one of the plurality of target network devices lacks support for the requested functionality~~, wherein [[a]] the rule containing the IP address of a target network device in the inbound rules table that matches the IP address of the designated one of the plurality of target network devices is used to determine if the requested functionality is to be processed by the one of the plurality of application modules in the computing device, and wherein the processing of the requested functionality by the one of the plurality of application modules includes responding to the incoming message addressed to the target network device on behalf of the target network device;

redirecting, in the case that the incoming message requests the functionality that the one of the plurality of application modules is configured to perform, the incoming message to the one of the plurality of application modules which performs the requested functionality in response to the incoming message, wherein the one of the plurality of application modules performs the requested functionality on behalf of the designated one of the plurality of target network devices, and wherein the designated one of the plurality of target network devices lacks support for the requested functionality, wherein in the case that another application module of the plurality of application modules is configured to process another requested functionality after the processing of the requested functionality by the one

of the plurality of application modules, a destination address of the incoming message is set to an IP address of the first network interface card; and

passing, in the case that the incoming message does not request the functionality that the one of the plurality of application modules is configured to perform, the incoming message through the local network via the second network interface card to the designated target network device.

34. (Currently Amended) A computing device for mimicking network devices, the computing device having first and second network interface cards, the first network interface card connecting the computing device to an external network and the second network interface card connecting the computing device to a local network, said computing device comprising:

a program memory for storing process steps executable to perform a method according to any of claims 38, 40, 42, 44 and 46 to 72 ~~1 to 3, 8 to 33 and 37 to 46~~, and a processor for executing the process steps stored in said program memory.

35. (Currently Amended) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for mimicking network devices and for being performed in a computing device having first and second network interface cards, the first network interface card connecting the computing device

to an external network and the second network interface card connecting the computing device to a local network, said computer-executable process steps comprising process steps executable to perform a method according to any of claims 38, 40, 42, 44 and 46

to 72 ~~1 to 3, 8 to 33 and 37 to 46.~~

36. (Currently Amended) A computer-readable medium which stores computer-executable process steps, the computer-executable process steps to mimic network devices and to be performed in a computing device having first and second network interface cards, the first network interface card connecting the computing device to an external network and the second network interface card connecting the computing device to a local network, said computer-executable process steps comprising process steps executable to perform a method according to any of claims 38, 40, 42, 44 and 46 to 72 ~~1 to 3, 8 to 33 and 37 to 46.~~

37. (Canceled)

38. (Currently Amended) A method according to claim 33, wherein the designated target network device is a legacy network device.

39. to 43. (Canceled).

44. (Currently Amended) A method according to claim 33, wherein the one of the plurality of application modules processes the functionality requested by the incoming message, and transmits data to the designated target network device as a result of the processing.

45. (Canceled)

46. (Previously Presented) A method according to Claim 44, wherein the requested functionality is e-mail printing, and wherein the data transmitted to the target network device is a rendered print job.

47. (New) A method according to claim 33, wherein in the redirecting step, the performing of the requested functionality by the one of the plurality of application modules includes sending a response message from the one of the plurality of application modules over the external network to the client network device, the response message having a source identification address identical to a source identification address of the designated target network device.

48. (New) A method according to claim 33, wherein in the redirecting step, the performing of the requested functionality by the one of the plurality of application modules includes sending a local message from the one of the plurality of application modules over the local network to the designated target network device which performs a function in response to the local message.

49. (Canceled)

50. (New) A method according to claim 33, wherein each of the plurality of rules contains a port identifier to indicate whether the functionality requested of the target network device corresponding to the rule is to be processed by a particular one of the plurality of application ~~module~~ modules residing in the computing device.

51. (New) A method according to claim 33, wherein the discovering step includes sending a discovery message to each discovered target network device and receiving discovery information in response to the discovery message from the corresponding target network device, wherein the discovery information is placed in the target descriptor entry for the corresponding target network device.

52. (New) A method according to claim 51, further comprising a polling step of sending ~~[[a]]~~ the discovery message on a periodic basis to ~~the~~ each discovered target network device, and receiving in response to the discovery message the discovery information from the corresponding target network device, wherein the ~~corresponding~~ target descriptor entry for the corresponding target network device is updated with the ~~newly~~ received discovery information.

53. (New) A method according to claim 52, wherein in the case that the discovery information is not received in response to the discovery message for a particular one of the discovered target network devices, the target descriptor entry corresponding to the particular one of the discovered target network ~~device~~ devices is deleted.

54. (New) A method according to claim 33, further comprising the step of sending a notification for each of the plurality of discovered target network ~~device~~ devices to the one of the plurality of application modules, the notification containing information related to the target descriptor entry for the corresponding target network device.

55. (New) A method according to claim 33, further comprising the step of publishing

~~the each of the~~ target descriptor ~~entry entries~~ to the one of the plurality of application modules.

56. (New) A method according to claim 48, wherein the second network interface card is assigned a preset IP address, and the local message contains a source IP address which is identical to the preset IP address.

57. (New) A method according to claim 48, wherein the local message contains a source IP address which is identical to a source IP address of the client network device.

58. (Canceled).

59. (New) A method according to claim 33, wherein in the redirecting step, the ~~processing performing~~ of the requested functionality by the one of the plurality of application modules includes preparation of an outbound message for delivery to a designated device on one of the external network and the local network, and wherein a routing table is used to determine which one of the external network and the local network is used for sending the outbound message to the designated device.

60. (New) A method according to claim 59, wherein the routing table contains a cross-reference indicator for the each of the plurality of target network ~~device devices~~ to indicate which one of the external network and the local network is used for sending the outbound message to the designated device.

61. (New) A method according to claim 59, wherein the routing table is used to determine whether a preset IP address of the second network interface card or a source IP address of the client network device is used as a source IP address in the outbound message.

62. (New) A method according to claim 33, further comprising the step of tracking a port identifier of a port opened by the one of the plurality of application modules and creating a rule in the inbound rules table corresponding to the port identifier, wherein in the determining step, the rule corresponding to the port identifier is used to redirect the incoming message from the external network to the one of the plurality of application modules if the incoming message contains the port identifier corresponding to the rule.

63. (New) A method according to claim 62, further comprising the steps of tracking an initial target port identifier of a port opened by one of the plurality of the target network device, mapping the initial target port identifier to a new target port identifier, creating a first map rule in the inbound rules table corresponding to the target network device which maps the initial target port identifier to the new target port identifier, and creating a second map rule in an outbound rules table corresponding to the target network device which maps the new target port identifier to the initial target port identifier.

64. (New) A method according to claim 33, wherein the local network is a USB network, the target network device is a printer, and the inbound rules table contains at least one rule which is used in the determining step to redirect [[an]] the incoming message for the printer from the external network to the one of the plurality of application modules which sends a USB message over the local network to the printer in response to the incoming message.



65. (New) A method according to claim 33, wherein the local network is a USB network, the target network device is a digital camera, and further including the steps of downloading a digital image to the one of the plurality of application modules from the digital camera via the local network, and sending the digital image to a server on the external network.

66. (New) A method according to claim 33, wherein the inbound rules table contains rules which are used in the determining step to route the incoming message from the external network to the designated target network device on the local network.

67. (New) A method according to claim 33, wherein the inbound rules table contains rules which are used in the determining step to capture ~~[[an]]~~ the incoming message from the external network and further including the step of preventing transmission of the incoming message on the local network.

68. (New) A method according to claim 33, wherein the inbound rules table contains rules which are used in the determining step to determine that all incoming messages from the external network are not to be processed by any of the plurality of application ~~module~~ modules, whereby all of the incoming messages from the external network are passed through the local network.

69. (New) A method according to claim 33, wherein the one of the plurality of application modules is a file server which sends at least one file over the local network to the

designated target network device and at least one file over the external network to the client network device.

70. (New) A method according to claim 33, wherein the inbound rules table contains rules which are used in the determining step to determine that a set of designated incoming messages are copied to the one of the plurality of application modules, which records each of the set of designated incoming messages.

71. (New) A method according to claim 33, wherein the inbound rules table contains rules which are used in the determining step to detect if the incoming message is an undesirable message, and in the case that the incoming message is an undesirable message, ~~it is determined that~~ the incoming message is to be processed by the one of the plurality of application modules, whereby the incoming message is redirected to the one of the plurality of application modules.

72. (New) A method according to claim 33, further including the step of transmitting a plurality of undesirable messages from the one of the plurality of application modules over one of the external network and the local network.